# IN THE UNITED STATES PATENT & TRADEMARK OFFICE

APPLICANT: O'BRIEN, ET AL. EXAMINER:

SERIAL NO: ART UNIT:

FILED : PAPER NO :

FOR : METHOD OF INHIBITING MATRIX

**METALLOPROTEINASES** 

# INFORMATION DISCLOSURE STATEMENT

MAIL STOP PATENT APPLICATION Commissioner for Patents PO BOX 1450 Alexandria, VA 22313-1450

# Dear Sir:

This paper is an Information Disclosure Statement ("IDS") for, and contains remarks about, the accompanying patent application, which is a divisional application under 35 U.S.C. § 121 of United States Patent Application No. 10/162,518, filed June 4, 2002, now allowed, which is a divisional application under 35 U.S.C. § 121 of United States Patent Application No. 09/254,384, filed March 2, 1999, which is a §371 of PCT/US97/14859, filed August 22, 1997, which claims benefit of priority from United States Provisional Patent Application Nos. 60/025,062, filed September 4, 1996, and 60/055,713, filed August 7, 1997.

Please enter the following remarks and IDS in the present application.

#### REMARKS

Applicants herein make available to the Patent and Trademark Office the following copending cases, parent and first divisional applications, respectively, cited by the applicant, to the USPTO in the present application:

# PARENT:

Our Ref. No.:

5486-01-CFP

In Re Application Of:

O'Brien, et al.

U.S. Serial No.:

09/254,384 March 2, 1999

Filed: For:

METHOD OF INHIBITING MATRIX

**METALLOPROTEINASES** 

# **FIRST DIVISIONAL**:

Our Ref. No.:

5486-D1-01-CFP

In Re Application Of:

O'Brien, et al.

U.S. Serial No.:

10/162,518 June 4, 2002

Filed: For:

METHOD OF INHIBITING MATRIX

**METALLOPROTEINASES** 

The Examiner is requested to consider carefully the claims of these applications in connection with the examination of the above-identified application in accord with 37 CFR §1.104(a). It is believed the Examiner will concur with applicant's belief that the subject matter presently claimed is neither claimed nor obvious by the foregoing application.

In this regard, Applicants note that the instant second divisional application differs from the parent application in the following respects:

- (1) A cross-reference to related applications has been added after the title;
- (2) Original Claims 1 to 33 have been deleted; and

(3) Instant Claims 1, 2, and 3 are presented that correspond to original Claims 20, 32, and 34, respectively, wherein the original claims have been amended as described below. Claims 1 and 2 are original Claims 20 and 32 that have been amended to literally recite subject matter that was previously by reference to original Claim 1. Further, Claims 1 to 3 are original Claims 20, 32, and 34 that have been amended to delete the term "prodrugs" therefrom, insert the particular esters thereof and amides thereof from the specification on page 23, at lines 11-16 and 17-24, respectively, and insert language that states literally what was previously disclosed by inference regarding the point of bonding of the S(=O)<sub>2</sub>M group to the position numbered benzo ring of Formula I.

No new matter is added.

#### Information Disclosure Statement

Applicants also herein make available to the U.S. Patent and Trademark Office copies of one Form PTO-1449 and three Forms PTO-892 from the parent application and one Form PTO/SB/08A and one Form PTO-892 from the first divisional application. The Forms PTO-1449 and PTO/SB/08A list certain references cited by the applicants, while Forms PTO-892 list certain references cited by Examiners during prosecution of the parent and first divisional applications.

The Examiner is respectfully requested to consider carefully the complete text of these cited references in connection with the examination of the above-identified application in accord with 37 CFR §1.104(a).

It is respectfully requested that all cited references considered by the Examiner be listed in the "References Cited" portion of any patent issuing from the instant application (MPEP § 1302.12).

A prompt and favorable examination is earnestly solicited.

The Commissioner of Patents and Trademarks is hereby authorized to charge any payment of fees required for this communication, or credit any overpayment of fees, to deposit account 23-0455.

The undersigned would welcome a telephone call from the Examiner to discuss any matters.

Respectfully submitted,

Date: June 25, 2003

Cloude F Ruchases Claude F. Purchase, Jr.

Reg. No. 47,871

Warner-Lambert Company

2800 Plymouth Road

Ann Arbor, MI 48105

Tel. (734) 622-1692

Fax (734) 622-1553

care (Optional) 5486-01-Applicant(s)

Application Num 09/254384

P.M. O'BRIEN, ET AL.

Filing Date **MARCH 2, 1999** 

Group Art Unit

# U.S. PATENT DOCUMENTS

| EXAMINER<br>INITIAL | REF | DOCUMENT NUMBER | DATE       | . NAME                   | CLASS    | SUBCLASS | 1  | IG DATE<br>ROPRIATE |
|---------------------|-----|-----------------|------------|--------------------------|----------|----------|--|---------------------|
|                     |     | 3,845,097       | 10/29/1974 | S. TOYOSHIMA, ET AL.     | 260      | 471      |  |                     |
|                     |     | 4,097,472       | 06/27/78   | S. OKAMOTO, ET AL.       | 424      | 127      |  |                     |
|                     |     | 5,665,764       | 09/09/1997 | D. HUPE, ET AL.          | 514      | 468      |  |                     |
|                     |     | 5,627,206       | 05/06/1997 | D. HUPE, ET AL.          | 514      | 468      |  |                     |
|                     |     |                 |            |                          |          |          |  |                     |
|                     |     |                 |            |                          |          |          |  |                     |
|                     |     |                 |            |                          |          |          |  |                     |
|                     |     |                 |            |                          |          |          |  |                     |
|                     |     |                 |            |                          |          |          |  |                     |
|                     |     |                 |            |                          |          |          |  |                     |
|                     |     |                 |            |                          |          |          |  |                     |
|                     |     | <u> </u>        |            | FOREIGN PATENT DOCUMENTS | <u> </u> | 1        | <u>.                                    </u> | · · · · · ·         |
|                     | REF | DOCUMENT NUMBER | DATE       | COUNTRY                  | CLASS    | SUBCLASS |  | slation             |
|                     |     | 0 606 046       | 07/13/1994 | EUROPE                   |          |          | YES 🗸  | NO                  |
| 3                   |     | 0 183 271       | 05/16/1990 | EUROPE                   |          |          | >  |                     |

WO

WO

wo

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

ABDEL-GHAFFAR, ET AL., J. SERB. CHEM. SOC., SYNTHESIS OF BIOLOGICALLY ACTIVE FLUORENE-2-SULPHONYLAMINO ACID AND DIPEPTIDE DERIVATIVES, VOL. 55, NO. 6, 1990, PP. 311-317.

EL-NAGGAR, ET AL., ACTA PHARM. JUGOSL., SYNTHESIS AND BIOLOGICAL ACTIVITY OF SOME NEW DIBENZOFURAN-AND 7-NITRODIBENZOFURAN-2-SULPHONYLAMINO ACID DERIVATIVES, V-35, 1985, PP 15-22

PCT INTERNATIONAL SEARCH REPORT, PCT/US97/14859

07/31/1997

12/05/1996

05/29/1997

**EXAMINER** 

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

97 27174

96 38434

97 19068

#### INFORMATION DISCLOSUR **ATION** (Use several sheets if necess,

5486-01-TM Applicant(s)
P.M. O'BRIEN, ET

09/254384

U.S. PATENT DOCUMENTS

Filing Date

**MARCH 2, 1999** 

Group Art Unit

| *EXAMINER | 1   |                 |            |                               |                           | 1              | T              |
|-----------|-----|-----------------|------------|-------------------------------|---------------------------|----------------|----------------|
| INITIAL   | REF | DOCUMENT NUMBER | DATE       | NAME                          | CLASS                     | SUBCLASS       | FILING DATE    |
|           |     |                 |            | <del></del>                   | <del> </del>              | <del> </del>   | IF APPROPRIATE |
|           |     |                 | <u>i</u>   |                               |                           |                |                |
|           | ĺ   |                 |            |                               |                           |                |                |
|           |     |                 |            |                               |                           | •              |                |
|           | ŀ   |                 |            |                               |                           |                |                |
|           |     |                 | <u> </u>   |                               |                           |                |                |
|           |     |                 |            |                               |                           |                |                |
|           |     |                 |            |                               |                           |                |                |
|           |     |                 |            | ĺ                             | 1                         |                |                |
|           |     |                 |            |                               |                           | <u> </u>       |                |
|           |     |                 |            |                               |                           |                |                |
|           |     |                 | 1          |                               |                           |                |                |
|           |     |                 |            | ·                             |                           |                |                |
|           |     |                 |            |                               |                           | ·              |                |
| ·         |     |                 |            |                               |                           |                |                |
|           |     |                 | Ĭ          |                               |                           |                |                |
|           |     |                 | ļ          |                               |                           |                |                |
|           |     |                 |            |                               |                           |                |                |
|           |     |                 |            |                               |                           |                |                |
|           |     |                 | 1          |                               | i                         |                |                |
|           |     |                 | <u> </u>   | Poppious                      |                           |                |                |
|           |     |                 |            | FOREIGN PATENT DOCUMENTS      |                           | •              |                |
| · ]       | REF | DOCUMENT NUMBER | DATE       |                               |                           |                | Translation    |
| 1         |     | DOCUMENT NUMBER | I PAIL     | COUNTRY                       | CT 100                    | OTIDOT AGO 1   | 1 Lanzianon    |
|           |     |                 | DATE       | COUNTRY                       | CLASS                     | SUBCLASS       | YES NO         |
|           |     | 20 65 966       | 07/14/1977 | DE                            | CLASS                     | SUBCLASS       |                |
|           |     |                 | 07/14/1977 |                               | CLASS                     | SUBCLASS       | YES NO         |
|           |     |                 |            |                               | CLASS                     | SUBCLASS       | YES NO         |
|           |     |                 | 07/14/1977 |                               | CLASS                     | SUBCLASS       | YES NO         |
|           |     |                 | 07/14/1977 |                               | CLASS                     | SUBCLASS       | YES NO         |
|           |     |                 | 07/14/1977 |                               | CLASS                     | SUBCLASS       | YES NO         |
|           |     |                 | 07/14/1977 |                               | CLASS                     | SUBCLASS       | YES NO         |
|           |     |                 | 07/14/1977 |                               | CLASS                     | SUBCLASS       | YES NO         |
|           |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
|           |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
|           |     |                 | 07/14/1977 | DE                            | CLASS  uthor, Title, Date |                | YES NO         |
|           |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
|           |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
|           |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
|           |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
|           |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
|           |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
| ZXAMINER  |     |                 | 07/14/1977 | OTHER DOCUMENTS (Including Au |                           |                | YES NO         |
| EXAMINER  |     |                 | 07/14/1977 | DE                            |                           |                | YES NO         |
| EXAMINER  |     | 20 65 966       | 07/14/1977 | OTHER DOCUMENTS (Including Au | uthor, Title, Date        | Pertinent Page | YES NO         |

|          |              | Notice of Refe                                   | oronoo Cit        |                    | Application/Control      | rol No.     | Applicant(s)/<br>Re xamination        | Pat nt Ur           | nder                           |
|----------|--------------|--|-------------------|--------------------|--------------------------|-------------|---------------------------------------|---------------------|--------------------------------|
|          |              | Notice of Refe                                   | erences Cit       | a·                 | Examiner                 |             | Art Unit                              | <del></del>         |                                |
| _        |              |  |                   |                    | Beby Jayaram             |             | [                                     | Page                | e 1 of 1                       |
| *        | Т            | T  |                   | U.S. PA            | TENT DOCUMENTS           | <del></del> | 1624                                  |                     |                                |
| Ĺ        | -            | DOCUMENT NO.                                     | DATE              |                    | NAME                     | CLASS       | SUBCLASS                              | DOCU<br>SOUR<br>APS | JMENT<br>RCE **<br>OTHER       |
|          | I A          | 5,665,764  | Sep. 1997         | Hupe et al.        |                          | 514         | 468                                   |                     | D                              |
|          | В            | <del> </del>                                     |                   |                    |                          |             |                                       |                     | 31.4                           |
|          | C            |  |                   |                    |                          |             |                                       |                     | II is also                     |
|          | +-           |  |                   |                    |                          |             |                                       |                     | <b></b> 1                      |
| _        | E            |  |                   |                    |                          |             |                                       |                     | 138Us                          |
| _        | F            | <del>                                     </del> |                   |                    |                          |             |                                       |                     | Express Mail No. EF220841138US |
|          | G            | <u> </u>   |                   |                    |                          |             |                                       |                     | F22(                           |
|          | Н            |  |                   |                    |                          |             |                                       |                     |                                |
|          |              |  |                   |                    |                          |             |                                       |                     | No N                           |
|          | J            |  |                   |                    |                          |             |                                       |                     | Express Mail N                 |
|          | К            |  |                   |                    |                          |             |                                       |                     | ress                           |
|          | L            |  |                   |                    |                          |             |                                       | 0                   | Exp.                           |
|          | М            |  |                   |                    |                          |             |                                       |                     |                                |
| *        |              |  |                   | FOREIGN F          | PATENT DOCUMENTS         |             | · · · · · · · · · · · · · · · · · · · | DOCUM               | <del></del>                    |
|          |              | DOCUMENT NO.                                     | DATE              | COUNTRY            | NAME                     | CLASS       | SUBCLASS                              | SOURC               | OTHER                          |
| ⊠        | N            | EP 0 183 271                                     | Nov. 1985         | JP                 | Shosuke et al.           |             |                                       |                     |                                |
| 믜        | 0            |  | ļ <u>.</u>        |                    |                          |             |                                       |                     | 0                              |
| 믜        | Р            |  |                   |                    |                          |             |                                       |                     |                                |
|          | <u> </u>     |  |                   |                    |                          |             |                                       |                     |                                |
|          | R            |  |                   |                    |                          |             |                                       |                     | 0                              |
| $\dashv$ | s            |  |                   |                    |                          |             |                                       |                     | 0                              |
|          | T            |  |                   | No.                |                          |             |                                       |                     |                                |
|          |              |  |                   |                    | ENT DOCUMENTS            | -           |                                       | DOCUME              | NT                             |
|          | $\downarrow$ | DO   | CUMENT (Including | g Author, Title Da | ate, Source, and Pertine | ent Pages)  |                                       | SOURCE              |                                |
| 1        | U            |  |                   |                    |                          |             |                                       |                     |                                |
| <b>⊃</b> | <u> </u>     |  |                   |                    |                          |             | ·                                     |                     | 0                              |
| 1        | v            |  |                   |                    |                          |             |                                       |                     |                                |
| )        |              |  |                   |                    |                          |             |                                       |                     |                                |

<sup>\*</sup>A copy of this reference is not being furnished with this Office action. (See Manual of Patent Examining Procedure, Section 707.05(a).)

\*APS encompasses any electronic search i.e. text, image, and Commercial Databases.

U.S. Patent and Trademark Office

PTO-892 (Rev. 03-98)

Notic f References Cited

|   |   |                 |                 |                    | Applicati n/C ntro<br>09/254,384   | l No.      | Applicant(s)/Pa<br>R xamination<br>O'BRIEN ET AL | 1      | ler                            |
|---|---|-----------------|-----------------|--------------------|--|------------|--|--------|--------------------------------|
|   |   | Notice of Ref r | enc s Cit (     | d                  | Examiner   |            | Art Unit   | T      |                                |
|   |   |                 |                 |                    | Thomas C McKenzie  | e.Ph.D.    | 1624   | Page   | 1 of 1                         |
|   | T |                 |                 | U.S. PA            | TENT DOCUMENTS   |            |  |        |                                |
| * |   | DOCUMENT NO.    | DATE            |                    | NAME   | CLASS      | SUBCLASS   | DOCUM  | E **                           |
| _ | - |                 |                 |                    |  |            |  | APS    | OTHER                          |
| 口 | A | <u> </u>        |                 |                    |  |            |  |        | _ Ր                            |
|   | В |                 |                 |                    |  |            |  |        |                                |
|   | С |                 |                 |                    |  |            |  | 0      | 5                              |
| ㅁ | D |                 | ļ               |                    |  |            |  |        | 138                            |
|   | E |                 |                 |                    |  |            |  |        | <b>114</b>                     |
|   | F |                 |                 |                    | ·  |            |  | 0      | Express Mail No. EF220841138US |
|   | G |                 |                 |                    |  |            |  |        | EF                             |
|   | Н |                 | ļ               |                    | - Walter - Add |            |  |        | 2                              |
|   | 1 |                 |                 | <u> </u>           |  |            |  |        | ⊢<br>Mail                      |
|   | J |                 |                 |                    | ·  |            |  |        | ess M                          |
|   | K |                 | 1.              |                    | TO 100   |            |  |        | Expre                          |
|   | L |                 |                 |                    | <del></del>  |            |  |        |                                |
|   | М |                 |                 | FOREIGN            |  |            |  |        |                                |
| * | T |                 | T               |                    | PATENT DOCUMENTS   |            | 1  | DOCUME | NT                             |
| _ |   | DOCUMENT NO.    | DATE            | COUNTRY            | NAME   | CLASS      | SUBCLASS   | APS    | OTHER                          |
|   | N | 183,271         | Jun. 1986       | EP                 | Okamoto et al  |            |  |        |                                |
|   | 0 |                 |                 |                    |  |            |  |        |                                |
|   | Р |                 |                 |                    |  |            |  |        |                                |
|   | Q |                 |                 |                    |  |            |  |        |                                |
|   | R |                 |                 |                    |  |            |  |        |                                |
|   | s |                 |                 |                    |  |            |  |        |                                |
|   | Т |                 |                 |                    |  |            |  |        |                                |
| 1 |   | ,               |                 | NON-PAT            | TENT DOCUMENTS   |            |  | DOCUME | NT                             |
| * |   | DO              | CUMENT (Includi | ng Author, Title [ | Date, Source, and Pertine  | ent Pages) |  | SOURCE | ••                             |
|   |   |                 |                 |                    |  |            |  | APS    | OTHER                          |
|   | U |                 |                 |                    |  |            |  |        |                                |
|   | ٧ |                 |                 |                    |  |            |  |        |                                |
|   | w |                 |                 |                    |  |            |  |        |                                |
|   | x |                 |                 |                    |  |            |  |        | П                              |

L 1 ...

\*A copy of this reference is not being furnished with this Office action. (See Manual of Patent Examining Procedure, Section 707.05(a).)

\*APS encompasses any electronic search i.e. text, image, and Commercial Databases.

U.S. Patent and Trademark Office

PTO-892 (Rev. 03-98)

N tice of References Cited

|          |          | <del></del>  | _                |                   | Applicati n/Contr I                    | <u></u>          | Annlinent/a\/Da                                   | Acres III |                                |
|----------|----------|--|------------------|-------------------|--|------------------|---|-----------|--------------------------------|
|          |          | Notice of Refere                                       | no s Citos       | ,                 | 09/254,384                             | Ν.               | Applicant(s)/Pa<br>R examination<br>O'BRIEN ET AL |           | r                              |
|          |          | Notice of Refere                                       | nc s Ched        | 1                 | Examiner                               |                  | Art Unit  |           |                                |
|          |          |  |                  |                   | Thomas C McKenzie                      | ,Ph.D.           | 1624  | Page 1    | of 1                           |
|          |          |  |                  | U.S. PA           | TENT DOCUMENTS                         |                  |   | 1 500.00  |                                |
| *        | l        | DOCUMENT NO.   | DATE             |                   | NAME                                   | CLASS            | SUBCLASS  | SOURCE    | E •••                          |
|          | +        |  |                  | <del> </del>      | <del></del>                            |                  | _   | APS       | OTHER                          |
|          | <u> </u> |  |                  |                   |  |                  |   | <u> </u>  |                                |
|          | В        |  |                  | ļ                 | <del></del>                            |                  | _   |           |                                |
|          | С        |  |                  |                   | ······································ |                  |   |           | 1138US                         |
|          | D        |  |                  |                   |  |                  |   |           | 1113                           |
|          | E        |  |                  |                   | <del></del>                            | _                |   |           | 208                            |
|          | F        |  |                  |                   |  |                  |   |           | SF2                            |
|          | G        |  |                  |                   |  |                  |   |           | Express Mail No. EF220841138US |
|          | Н        |  |                  |                   | ······································ |                  |   |           | ail                            |
|          | 1        |  |                  |                   | ************************************** |                  |   |           | S M                            |
|          | j        |  |                  |                   | ·-··                                   |                  |   |           | pres                           |
|          | к        |  |                  |                   |  |                  |   |           | Express Mail I                 |
|          | L        |  |                  |                   |  |                  |   |           |                                |
|          | М        |  |                  |                   |  |                  |   |           | 100                            |
|          |          |  |                  | FOREIGN           | PATENT DOCUMENTS                       | <u> </u>         | 1   | DOCUME    | NT                             |
| *        |          | DOCUMENT NO.   | DATE             | COUNTRY           | NAME                                   | CLASS            | SUBCLASS  | SOURCE    |                                |
|          | N        |  |                  |                   |  |                  |   |           |                                |
|          | 0        |  |                  |                   |  |                  |   |           |                                |
|          | Р        |  |                  |                   |  |                  |   |           |                                |
|          | Q        |  |                  |                   |  |                  |   |           | 0                              |
|          | R        |  |                  |                   |  |                  |   |           |                                |
|          | s        |  |                  |                   |  |                  |   |           |                                |
|          | Т        |  |                  |                   |  |                  |   |           |                                |
|          |          |  |                  | NON-PA            | TENT DOCUMENTS                         | .!               |   | l         |                                |
| *        |          | DOC  | JMENT (Includin  | g Author, Title I | Date, Source, and Pertine              | nt Pages)        |   | SOURCE    | **<br>                         |
| $\dashv$ |          | "Cool Toubook of Modicin                               | - 00th Edition   |                   | 2 Editor M. B. Connector               | - Duite de la la |   | APS       | OTHER                          |
| 믜        | U        | "Cecil Textbook of Medicin<br>LVIII-LIX.               | e, 20th Edition" | , Bennett, J.C    | J. Editor, W.B. Saunde                 | rs, Philadelph   | ıa, 1996, pages                                   |           | ⊠                              |
|          | V        | "Merck Manual of Diagnosi<br>Laboratories, Rahway, N.J |                  |                   | , Berkow, R. Editor-in-                | Chief, Merck     | Research  | 0         | Ø                              |
|          | w        | Skiles, J.W. et al, Annual R<br>167-176.               | eports in Medio  | cal Chemistry     | , Vol. 35, Academic Pr                 | ess, San Dieg    | go, 2000, pages                                   |           | ⊠                              |
|          | x        |  |                  |                   |  |                  |   |           |                                |

<sup>&</sup>quot;A copy of this reference is not being furnished with this Office action. (See Manual of Patent Examining Procedure, Section 707.05(a).)
"APS encompasses any electronic search i.e. text, image, and Commercial Databases.
U.S. Patent and Trademark Office
PTO-892 (Rev. 03-98)

Notic of References Cit d

# Notice of References Cited

Application/Control No. 09/254,384

Applicant(s)/Patent Under Reexamination
O'BRIEN ET AL.

Examiner

Thomas C McKenzie, Ph.D.

Art Unit

1624

Page 1 of 1

# U.S. PATENT DOCUMENTS

| *      |   | Document Number Country Code-Number-Kind Code | Date<br>MM-YYYY |                      | Name | Classifica  | tion                      |
|--------|---|---|-----------------|----------------------|------|-------------|---------------------------|
|        | Α | US-6,207,698-B1                               | 03-2001         | Wantanabe et al      |      | 514         | 414                       |
|        | В | US  |                 |                      |      |             |                           |
|        | С | US  |                 |                      |      |             |                           |
|        | D | US  |                 |                      |      |             | ,                         |
|        | E | US  |                 |                      |      |             | <del>.</del> .            |
|        | F | US `  |                 |                      |      |             |                           |
|        | G | US  |                 |                      |      |             |                           |
|        | Н | US  |                 |                      |      |             |                           |
|        | 1 | US  |                 |                      |      |             | S                         |
|        | J | US  |                 |                      |      |             | 381                       |
|        | к | US  |                 |                      |      |             | 4                         |
|        | L | US  |                 |                      |      |             | 208                       |
|        | М | US  |                 |                      |      |             | OF?                       |
|        |   |   | ı               | OREIGN PATENT DOCUME | ENTS |             | O                         |
| *      |   | Document Number Country Code-Number-Kind Code | Date<br>MM-YYYY | Country              | Name | Classificat | ss Mail No. EF220841138US |
|        | N |   |                 |                      |      |             | X                         |
| $\neg$ |   |   |                 |                      |      | <del></del> | N                         |

| * |   | Document Number Country Code-Number-Kind Code |   | Date<br>MM-YYYY | Country | Name | Classificat |
|---|---|---|---|-----------------|---------|------|-------------|
|   | N | -   | - |                 |         |      |             |
|   | 0 | -   | - |                 |         |      |             |
|   | Р | -   | - |                 |         |      |             |
|   | a | -   | - |                 |         |      |             |
|   | R | -   | - |                 |         |      |             |
|   | s | -   | - |                 |         |      |             |
|   | Т | -   | • |                 |         |      |             |

#### **NON-PATENT DOCUMENTS**

| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|---|
|   | U | Polman, C.H. et al, BMJ 2000, 321, 490-4.   |
|   | ٧ | Cohen, J.A. et al, J. Neuroimmun., 1999, 98 29-36.  |
|   | W |   |
|   | х |   |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)

Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

| Please type  | 2 | nlus | sion | (+) | insida  | this | hox | > | _ |
|--------------|---|------|------|-----|---------|------|-----|---|---|
| i icase type | • | pius | Sign | 17/ | 1112106 | 0.02 | DOX |   |   |

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| Substitute | for form 1449A/PT | 0        |           | Compl te if Known      |                    |  |  |
|------------|-------------------|----------|-----------|------------------------|--------------------|--|--|
| INITO      | DMATION           | . DIC    | 01.001155 | Application Number     | 10/162,518         |  |  |
|            |                   |          | CLOSURE   | Filing Date            | June 4, 2002       |  |  |
| STAT       | CEMENT E          | BY AF    | PLICANT   | First Named Inventor   | O'BRIEN ET AL      |  |  |
|            |                   |          |           | Group Art Unit         | 1624               |  |  |
| ((         | use as many she   | ets as n | ecessary) | Examiner Name          | MCKENZIE, THOMAS C |  |  |
| Sheet      | 1                 | of       | 2         | Attorney Docket Number | 5486-D1-MAS        |  |  |

|                      |              |               |   | U.S. PATENT DOC                                 | JMENTS   |  |
|----------------------|--------------|---------------|---|---|--|--|
| Examiner<br>Initials | Cite<br>No.1 | U.S. Patent I | Document  Kind Code <sup>2</sup> (if known) | Name of Patentee or Applicant of Cited Document | Date of Publication of<br>Cited Document<br>MM-DD-YYYY | Pages, Columns, Lines,<br>Where Relevant<br>Passages or Relevant<br>Figures Appear |
|                      |              | 6,207,69      |   |   |  |  |
|                      |              | 3,845,09      | 7   |   |  |  |
|                      |              | 4,097,47      | 2   |   |  |  |
|                      |              | 5,665,76      | 4   |   |  |  |
|                      |              | 5,627,20      | 6   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   |  |  |
|                      |              |               |   |   | 1  |  |
|                      |              |               | 1   |   |  |  |

|          |               | _       |                     | FORE                                 | IGN PATENT DOCUMEN          | TS                           |  |  |
|----------|---------------|---------|---------------------|--------------------------------------|-----------------------------|------------------------------|--|--|
| Examiner | Cite<br>No.of |         | Foreign Patent Docu | ment                                 | Name of Patentee or         | Date of Publication of       | Pages, Columns, Lines,                             |  |
| Initials |               | ic e³   | Number <sup>4</sup> | Kind Code <sup>5</sup><br>(if known) | Applicant of Cited Document | Cited Document<br>MM-DD-YYYY | Where Relevant Passages or Relevant Figures Appear | T6   |
|          |               | JP      | 51105048            |                                      |                             |                              |  |  |
|          |               | EP      | 0 606 046           |                                      |                             |                              |  | 1  |
|          |               | EP      | 0 183 271           |                                      | - M**                       |                              |  | <del>                                     </del> |
|          |               | WO      | 97 27174            |                                      |                             |                              |  | +  |
|          |               | WO      | 96 38434            |                                      |                             |                              |  | <del>                                     </del> |
|          |               | wo      | 97 19068            |                                      |                             |                              | · <del>- · · · · · · · · · · · · · · · · · ·</del> | <del>                                     </del> |
|          |               | DE      | 20 65 966           |                                      |                             |                              |  | 1  |
|          |               |         |                     |                                      |                             |                              |  |  |
|          |               | $\perp$ |                     |                                      |                             |                              |  |  |
|          |               |         |                     |                                      |                             |                              |  |  |

| Examiner  | Date       |          |
|-----------|------------|----------|
| Signature | Considered |          |
|           |            | <u> </u> |

<sup>&</sup>lt;sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.



<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

| Please type a plus sign (+) inside this box -> | + |
|--|---|
|--|---|

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| Substitut                         | te for form 1449B/ | PTO     |         | Compl te if Known      |                    |  |
|-----------------------------------|--------------------|---------|---------|------------------------|--------------------|--|
| INIEC                             |                    | . N. D. |         | Application Number     | 10/162,518         |  |
| INFC                              | JRIMATIC           | כוט אכ  | CLOSURE | Filing Date            | June 4, 2002       |  |
| STATEMENT BY APPLICANT            |                    |         |         | First Named Inventor   | O'BRIEN ET AL      |  |
|                                   |                    |         |         | Group Art Unit         | 1624               |  |
| (use as many sheets as necessary) |                    |         |         | Examiner Name          | MCKENZIE, THOMAS C |  |
| Sheet                             | 2                  | of      | 2       | Attorney Docket Number | 5486-D1-MAS        |  |

|                       | OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS |   |    |  |  |  |
|-----------------------|---|---|----|--|--|--|
| Examiner<br>Initials* | Cite<br>No.1                                      | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T2 |  |  |  |
|                       |   | ABDEL-GHAFFAR ET AL: "Synthesis of Biologyically active fluoren-2-sulfonylamino acid and dipeptide derivatives" J. SERB. CHEM SOC., vol, 55, no. 6, 1990, pages 311-17  |    |  |  |  |
|                       |   | EL-NAGGAR ET AL: "Synthesis and biological activity of some new dibenzofuran and 7-nitrodibenzofuran-2-sulphonylamino acid derivatives" ACTA PHARM. JUGOSL., vol 35, 1985, pages 15-22  |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |
|                       |   |   |    |  |  |  |

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Examiner

Signature

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Date

Considered

<sup>&</sup>lt;sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

# Notice of References Cited

| Application/Control No. 10/162,518 | Applicant(s)/Patent Under Reexamination O'BRIEN ET AL. |             |  |
|------------------------------------|--|-------------|--|
| Examiner                           | Art Unit   |             |  |
| Thomas McKenzie Ph.D.              | 1624   | Page 1 of 2 |  |

# U.S. PATENT DOCUMENTS

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name             | Classification |
|---|---|--|-----------------|------------------|----------------|
|   | А | US-3,850,968                                     | 11-1974         | Toyoshima et al  | 549/494        |
|   | В | US-3,919,291                                     | 11-1975         | Toyoshima et al. | 560/159        |
|   | С | US-4,066,773                                     | 01-1978         | Okamoto et al.   | 514/319        |
|   | D | US-5,948,780                                     | 09-1999         | Peterson et al.  | 514/255.01     |
|   | Ε | US-  |                 |                  |                |
|   | F | US-  |                 |                  |                |
|   | G | US-  |                 |                  |                |
|   | Н | US-  |                 |                  |                |
| - | 1 | US-  |                 |                  |                |
|   | J | US-  |                 |                  |                |
|   | К | US-  |                 |                  |                |
|   | L | US-  |                 |                  |                |
|   | М | US-  |                 |                  |                |

# **FOREIGN PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country | Name            | Classification |
|---|---|--|-----------------|---------|-----------------|----------------|
|   | N | JP 51105048                                      | 09-1976         | Japan   | Toyoshima et al |                |
|   | 0 |  |                 |         |                 |                |
|   | Р |  |                 |         |                 |                |
|   | Q |  |                 |         |                 |                |
|   | R |  |                 |         |                 |                |
|   | s |  |                 | ·       |                 |                |
|   | Т |  |                 |         |                 |                |

# **NON-PATENT DOCUMENTS**

| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent.Pages)  |
|---|---|--|
|   | U | Chemical Abstracts document No. 86:30073, 1976.  |
|   | ٧ | Dubois B, D'Hooghe MB, De Lepeleire K, Ketelaer P, Opdenakker G, Carton H., Mult Scler 1998 Apr;4(2):74-8, cited in PMID: 9599337. |
|   | w | Polman, C.H. et al, BMJ 2000, 321, 490-4.  |
|   | х | Cohen, J.A. et al, J. Neuroimmun., 1999, 98 29-36.   |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)

Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

# Notice of References Cited Application/Control No. 10/162,518 Examiner Thomas McKenzie Ph.D. Applicant(s)/Patent Under Reexamination O'BRIEN ET AL. Page 2 of 2

# **U.S. PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name | Classification |
|---|---|--|-----------------|------|----------------|
|   | Α | US-  |                 | 1    |                |
|   | В | US-  |                 |      |                |
|   | С | US-  |                 |      |                |
|   | D | US-  |                 |      |                |
|   | Ε | US-  |                 |      |                |
|   | F | US-  |                 |      |                |
|   | G | US-  |                 |      |                |
|   | Н | US-  |                 |      |                |
|   | ı | US-  |                 |      |                |
|   | J | US-  |                 |      |                |
|   | κ | US-  |                 |      |                |
|   | L | US-  |                 |      |                |
|   | М | US-  |                 |      |                |

# FOREIGN PATENT DOCUMENTS

|   |   |  |                 | NEIGH TATENT BOO |      |                |
|---|---|--|-----------------|------------------|------|----------------|
| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country          | Name | Classification |
|   | N |  |                 |                  |      |                |
|   | 0 |  |                 |                  |      |                |
|   | Р |  |                 |                  |      |                |
|   | Q |  |                 |                  |      |                |
|   | R |  |                 |                  |      |                |
|   | S |  |                 |                  |      |                |
|   | Т |  |                 |                  |      |                |

# **NON-PATENT DOCUMENTS**

| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)   |
|---|---|---|
|   | U | Draetta, G. and Pagano, M. in "Annual Reports in Medicinal Chemistry, Vol. 31", 1996, Academic Press, San Diego, p241-246.  |
|   | ٧ | Summers, J.B. et al, in "Annual Reports in Medicinal Chemistry, Vol. 33", 1998, Academic Press, San Diego, p 131-140.   |
|   | w | Kikumoto, Ryoji; Tamao, Yoshikuni; Ohkubo, Kazuo; Tezuka, Tohru; Tonomura, Shinji; Okamoto, Shosuke; Funahara,<br>Yoshinori; Hijikata, Akiko, J. Med. Chem., 23(8), 1980, 830-6 (English) |
|   | х |   |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.